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RE:

NUMBER OF PAGES, INCLUDING COVER PAGE: 4	Client Number: SOPH-002/02US (306561-2011)
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MESSAGE:

Re: U.S. Patent Application No. 10/091,724

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Attorney Docket No. SOPH-002/02US **PATENT**

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By: _____

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application: Samy ASHKAR *et al.* Confirmation No.: 6946

Application No.: 10/091,724 Group Art Unit: 1634

Filed: March 6, 2002 Examiner: Carla Myers

For: METHODS TO SCREEN PEPTIDE LIBRARIES USING MINICELL DISPLAY

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Interview Summary

Applicants thank the Examiner for the Interview on May 10, 2006. At the Interview, the advantages of the claimed minicell display system were discussed. In particular, Applicants showed that it would not have been obvious to a skilled artisan to screen a peptide library by expressing a fusion protein comprising a fragment of the 17K antigen of *Rickettsia rickettsii* fused to a second peptide on the outer surface of a minicell.

The background section of the Huang *et al.* patent (U.S. Patent 5,516,637) cited by the Examiner teaches that past attempts to develop bacterial display methods by expressing a fusion protein containing a desired recombinant polypeptide fused to a native protein normally exposed on the cell's exterior have been largely unsuccessful. According to the reference, the foreign

protein frequently interferes with localization, and the resulting fusion protein is unable to reach the cell's surface. For instance, Huang *et al.* provide that the fusion protein may suffer from incorrect orientation such that the polypeptide of interest is oriented facing the periplasm of the cell.

In order to get around this problem, display systems have been developed using large outer membrane proteins such as the pilus protein described in the Huang *et al.* reference. However, as shown by Applicants, there are limitations as to the size and structure of polypeptides that can be successfully expressed on a cell membrane using these constructs.

Applicants discussed how a portion of the 17K antigen of *Rickettsia rickettsii* containing a signal sequence and a lipid modification site can be used in one embodiment of the invention to present a peptide effectively on the surface of a minicell. Applicants pointed out that this peptide differs from a fusion protein containing the entire 17K antigen as disclosed in Georgiou *et al.* patent (U.S. Patent 5,348,867). As discussed with the Examiner, fusion proteins containing the full 17K antigen do not properly localize on the outer surface of a bacterial minicell. For this reason, it would not have been obvious to a skilled artisan that an N-terminal fragment of the 17K antigen containing both a signal sequence and lipid modification site would be expressed and properly localized to the cell surface of a minicell. In order to expedite the withdrawal of the outstanding rejection under 35 U.S.C. § 103(a), Applicants proposed amending claim 1 to recite the subject matter of claim 13, *i.e.*, recite an N-terminal fragment of the 17K antigen consisting essentially of a signal sequence and lipid modification site as the first peptide of the fusion protein. Applicants agreed to use "consisting essentially of" language in claim 1 to disclaim the use of a fusion protein containing a full length 17K antigen as well as a fusion protein containing

an N-terminal fragment of a protein containing a signal sequence and lipid modification site other than the 17K antigen of *Rickettsia rickettsii* .

Except for issue fees payable under 37 CFR 1.18, the commissioner is hereby authorized by this paper to charge any additional fees during the pendency of this application including fees due under 37 CFR 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-1283. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 CFR 1.136(a)(3).

If the Examiner has any further questions relating to this Interview Summary or to the application in general, she is respectfully requested to contact the undersigned by telephone so that allowance of the present application may be expedited.

Dated: May 16, 2006

Respectfully submitted,
COOLEY GODWARD LLP

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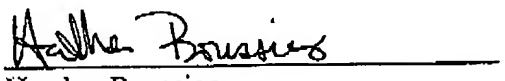
By: 

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